Use Attainability Analysis

for

WBID 1264 East Branch

Submitted by
BWR

June 1, 2007

Submitted to:
Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	East Branch
Missouri Water Body Identification (WBID) Number:	1264
8-digit HUC: 10290108	County: CASS
Upstream Legal Description (from Table H):	1, 44N, 32W
Downstream Legal Description(from Table H):	Mouth
Number of sites evaluated	~~3~~ 7
List all sites numbers, listed consequently upstream to downstream:	~~1,2,3~~ 5,7,1,6,4,2,3

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

II. Subegmentation (fill this section out only in cases where subesgmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Upstream Coordinates: UTM X Y	Downstream Coordinates: UTM X Y

HORIZONTAL COLLECTION METHOD (indicate the method used to determine the locational data)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± 17 Feet or ± _____ Meters		
PDOP		± _____ Feet or ± _____ Meters	

III. Discharger Facility Information (list all permitted dischargers on the stream)

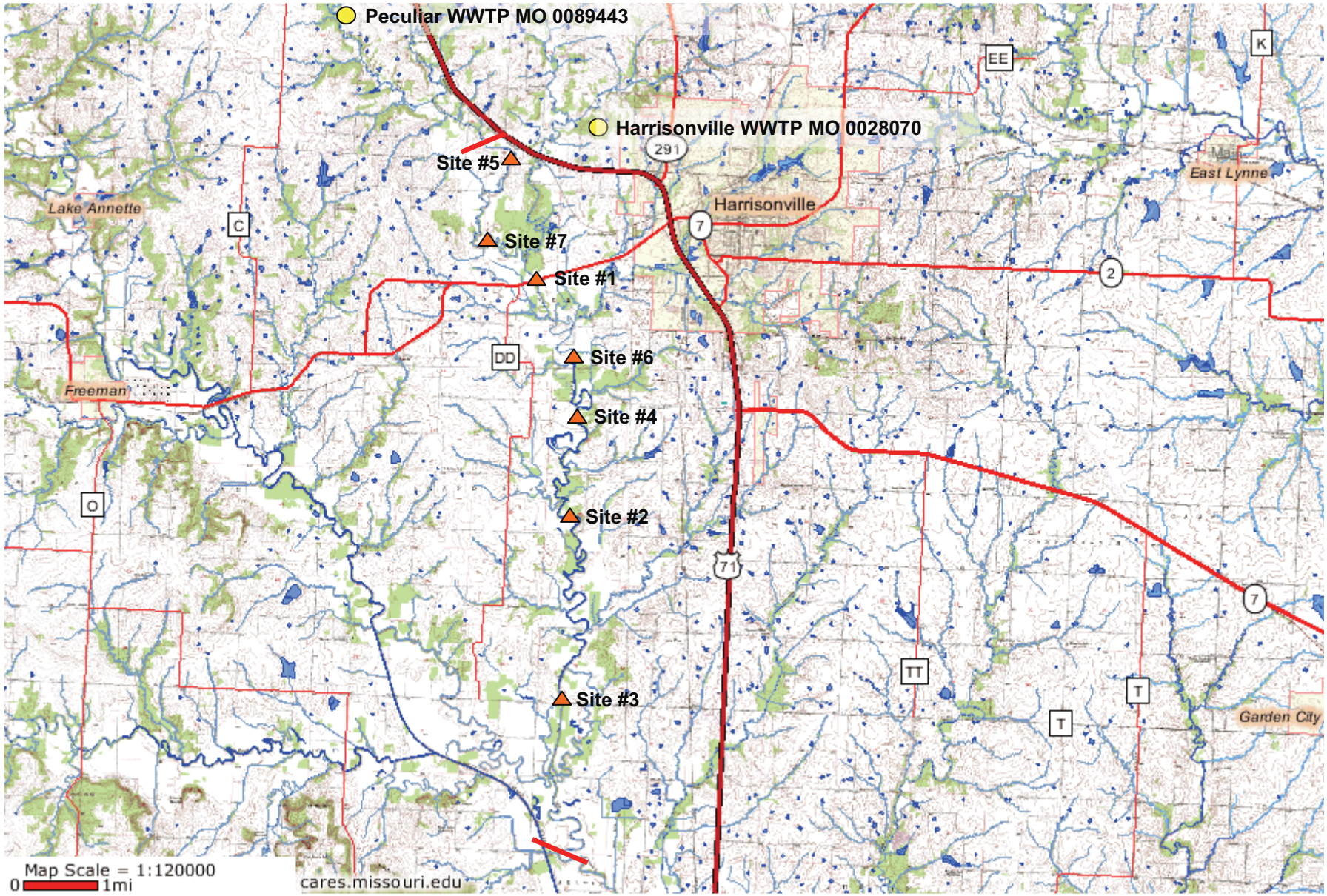
Discharger Facility Name(s):	Peculiar WWTP, Harrisonville WWTP
Discharger Permit Number(s):	MO0089443, MO0028070

IV. UAA Surveyor (please print legibly)

Name of Surveyor: Alan Mitchell	Telephone Number: 913.620.4380
Organization/Employer: EAE	
Position: Team Leader	

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Signed: Alan E. Mitchell **Date:** May 22, 2007



BWR
Right in the Center

East Branch
WBID #1264

N

WBID# 1264
Site# 1

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 5/22/2007 - 12:20 PM	Site Location Description (e.g., road crossing): Intersection w/ county road 2
Personnel (Data Collectors): Alan Mitchell, Alex Bartlett	
Current Weather Conditions: Clear	Facility Name: Peculiar WWTP, Harrisonville WWTP
Weather Conditions for Past 10 days:	Permit Number: ↓MO0089443 ↓MO0026870
Drought Conditions?: No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 94.39863° W Y: 38.64172° N

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
45&46		43&44			

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☑ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: House 50 M from Left bank of creek near Co. Hwy 2

Channel Feature
RUN: 95%
RIFFLE: 0%
POOL: 5%

*** Page Two – Data Sheet B for WBID #** 1264 : site 1

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE	50	8	10	0.3	0.5
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL	0	12	50	1.0	>1.0

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Heather Mitchell Date of Survey: May 22, 2007

Organization: EHE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.2			1 Channel Feature:	
2	9.0 m	0.6			2 RUN	
3		0.7			3	
4	measurements	0.7			4 Dissolved Oxygen	
5	0.9 m	0.8			5	
6	apart	0.7			6 9.33 ppm	
7		0.6			7 106.5 %	
8		0.5			8 21.9 °C	
9		0.4			9	
10		0.1			10	
					11	
Transect B 1	wetted width	0.3			12 Channel Feature:	
2	9.0 m	0.5			13 RUN	
3		0.6			14	
4	measurements	0.7			15 Dissolved Oxygen:	
5	0.9 m	0.5			16	
6	apart	0.6			17 9.23 ppm	
7		0.5			18 106.1 %	
8		0.4			19 21.9 °C	
9		0.3			20	
10		0.1			21	
					22	
Transect C 1	wetted width	0.4			23 Channel Feature:	
2	9.0 m	0.6			24 RUN	
3		0.8			25	
4	measurements	0.6			26 Dissolved Oxygen	
5	0.9 m	0.6			.	
6	apart	0.6			. 9.32 ppm	
7		0.5			. 104.5 %	
8		0.4			n 21.9 °C	
9		0.4				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Todd D. Mitchell **Date:** May 22, 2007

Organization: EHE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.3			1 Channel Feature:	
2	8.0 m	0.6			2 RUN	
3		0.7			3	
4	measurements	0.5			4 Dissolved Oxygen	
5	0.8 m	0.6			5	
6	apart	0.5			6 9.36	ppm
7		0.5			7 105.6	%
8		0.5			8 21.9	°C
9		0.3			9	
10		0.1			10	
					11	
Transect E 1	wetted width		0.2		12 Channel Feature:	
2	9.0 m		0.5		13 RUN	
3			0.5		14	
4	measurements		0.6		15 Dissolved Oxygen:	
5	0.9 m		0.6		16	
6	apart		0.8		17 9.32	ppm
7			0.5		18 106.3	%
9			0.5		19 21.8	°C
9			0.4		20	
10			0.2		21	
					22	
Transect F 1	wetted width	0.2			23 Channel Feature:	
2	8.0 m	0.5			24 RUN	
3		0.6			25	
4	measurements	0.6			26 Dissolved Oxygen	
5	0.8 m	0.7			.	
6	apart	0.7			. 9.37	ppm
7		0.7			. 105.0	%
8		0.7			n 21.7	°C
9		0.6				
10		0.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Heather Mitchell **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 1

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G	1	wetted width	0.3			1 Channel Feature:	
	2	10.0 m	0.8			2 POOL	
	3		1.0			3	
	4	measurements	1.0			4 Dissolved Oxygen	
	5	1.0 m	>1.0			5	
	6	apart	>1.0			6 9.16 ppm	
	7		>1.0			7 105.5 %	
	8		>1.0			8 21.8 °C	
	9		0.8			9	
	10		0.3			10	
						11	
Transect H	1	wetted width	0.3			12 Channel Feature:	
	2	9.5 m	0.8			13 RUN	
	3		0.9			14	
	4	measurements	0.9			15 Dissolved Oxygen:	
	5	0.9 m	1.0			16	
	6	apart	1.0			17 9.35 ppm	
	7		1.0			18 107.2 %	
	9		0.9			19 21.8 °C	
	9		0.8			20	
	10		0.4			21	
						22	
Transect I	1	wetted width	0.2			23 Channel Feature:	
	2	9.0 m	0.3			24 RUN	
	3		0.4			25	
	4	measurements	0.4			26 Dissolved Oxygen	
	5	0.9 m	0.4			.	
	6	apart	0.3			. 9.16 ppm	
	7		0.3			. 104.3 %	
	8		0.6			n 21.9	
	9		0.5				
	10		~~<0.1~~				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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Signed: _____ **Date:** May 22, 2007

Organization: BAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 1

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect J	1	wetted width	0.1			1 Channel Feature:	
	2	7.5 m	0.2			2 RUN	
	3		0.3			3	
	4	measurements	0.3			4 Dissolved Oxygen	
	5	0.7 m	0.1			5	
	6	apart	<0.1			6 8.22 ppm	
	7		0.1			7 95.2 %	
	8		0.2			8 22.0 °C	
	9		0.2			9	
	10		<0.1			10	
						11	
Transect K	1	wetted width	0.4			12 Channel Feature:	
	2	4.5 m	0.6			13 RUN	
	3		0.6			14	
	4	measurements	0.5			15 Dissolved Oxygen:	
	5	0.4 m	0.4			16	
	6	apart	0.3			17 9.49 ppm	
	7		0.2			18 108.6 %	
	9		0.1			19 20.9	
	9		<0.1			20	
	10		<0.1			21	
						22	
Transect	1	wetted width				23 Channel Feature:	
	2	m				24	
	3					25	
	4	measurements				26 Dissolved Oxygen	
	5	m				.	
	6	apart				. ____ ppm	
	7					. ____ %	
	8					n	
	9						
	10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** May 22, 2007

Organization: EHE, Inc. Position: Env. Engr

WBID# 1264
Site# 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 2:45pm 5/22/2007	Site Location Description (e.g., road crossing): intersection: E 289th St
Personnel (Data Collectors): Alan Mitchell Alex Bartlett	
Current Weather Conditions: overcast	Facility Name: Peculiar WWTP, Harrisonville WWTP
Weather Conditions for Past 10 days: high pressure little rain	Permit Number: ↳ MO0089443 ↳ MO0028070
Drought Conditions?: No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 94.38964°W Y: 38.59322°N

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
47&48		49&50			

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☑ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: Farming – plowed field near creek

W.M. May 22, 2007
BAE, Inc.

% Channel Feature

RUN: 65%
RIFFLE: 20%
POOL: 15%

*** Page Two – Data Sheet B for WBID #** 1264 : site 2

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL	10	15	100	0.5	1.0

Downstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE	0	12	30	0.3	0.5
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

5 % Cobble	10 % Gravel	% Sand	% Silt	85 % Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Emergent Macrophytes – 5%

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Mark W. Mitchell Date of Survey: May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.5			1 Channel Feature:	
2	11.5 m	~~0.5~~ 1.0			2 POOL	
3		~~0.5~~ 1.0			3	
4	measurements	1.0			4 Dissolved Oxygen	
5	1.1 m	1.0			5	
6	apart	1.0			6 7.98	ppm
7		0.9			7 92.6	%
8		0.7			8 22.2	°C
9		0.3			9	
10		0.1			10	
					11	
Transect B 1	wetted width	0.2			12 Channel Feature:	
2	14 m	0.5			13 POOL	
3		0.6			14	
4	measurements	0.7			15 Dissolved Oxygen:	
5	1.4 m	0.9			16	
6	apart	0.9			17 7.87	ppm
7		0.9			18 91.3	%
9		0.7			19 22.2	°C
9		0.6			20	
10		0.3			21	
					22	
Transect C 1	wetted width	0.3			23 Channel Feature:	
2	11.0 m	0.4			24 RUN	
3		0.7			25	
4	measurements	0.8			26 Dissolved Oxygen	
5	1.1 m	0.9			.	
6	apart	0.9			. 8.17	ppm
7		0.9			. 94.5	%
8		0.7			n 22.2	°C
9		0.5				
10		0.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.3			1 Channel Feature:	
2	8.5 m	0.4			2 RUN	
3		0.6			3	
4	measurements	0.8			4 Dissolved Oxygen	
5	0.8 m	0.8			5	
6	apart	0.4			6 8.11	ppm
7		0.3			7 94.0	%
8		0.3			8 22.2	°C
9		0.1			9	
10		<0.1			10	
					11	
Transect E 1	wetted width	0.2			12 Channel Feature:	
2	10.0 m	0.5			13 RUN	
3		0.8			14	
4	measurements	0.6			15 Dissolved Oxygen:	
5	1.0 m	0.4			16	
6	apart	0.3			17 8.01	ppm
7		0.3			18 93.0	%
9		0.2			19 22.3	°C
9		0.2			20	
10		<0.1			21	
					22	
Transect F 1	wetted width	0.3			23 Channel Feature:	
2	10.0 m	0.4			24 RUN	
3		0.6			25	
4	measurements	0.7			26 Dissolved Oxygen	
5	1.0 m	0.7			.	
6	apart	0.5			. 8.11	ppm
7		0.3			. 93.4	%
8		0.3			n 22.1	°C
9		0.2				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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Signed: _____ **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.3			1 Channel Feature:	
2	~~25~~ 12.5 m	0.4			2 RUN	
3		0.4			3	
4	measurements	0.4			4 Dissolved Oxygen:	
5	~~0~~ 1.3 m	0.4			5	
6	apart	0.4			6 8.05	ppm
7		0.6			7 91.5	%
8		0.6			8 22.2	°C
9		0.3			9	
10		0.1			10	
					11	
Transect H 1	wetted width	0.4			12 Channel Feature:	
2	12.0 m	0.6			13 RUN	
3		0.6			14	
4	measurements	0.7			15 Dissolved Oxygen:	
5	0.2 m	0.7			16	
6	apart	0.8			17 7.98	ppm
7		0.8			18 93.0	%
8		0.6			19 22.2	°C
9		0.3			20	
10		0.1			21	
					22	
Transect I 1	wetted width	0.2			23 Channel Feature:	
2	8.5 m	0.2			24	
3		0.2			25	
4	measurements	0.3			26 Dissolved Oxygen	
5	0.2 m	0.2			. RIFFLE	
6	apart	0.2			. 8.17	ppm
7		0.2			. 94.5	%
8		0.3			n 22.1	°C
9		0.2				
10		<0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alan W. Mitchell **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect J 1	wetted width	0.2			1 Channel Feature:	
2	8.5 m	0.2			2 RIFFLE	
3		0.2			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.8 m	0.1			5	
6	apart	0.2			6 8.41	ppm
7		0.2			7 97.4	%
8		0.2			8 22.1	°C
9		0.2			9	
10		<0.1			10	
					11	
Transect K 1	wetted width	<0.1			12 Channel Feature:	
2	10.5 m	0.1			13 RIFFLE	
3		0.3			14	
4	measurements	0.2			15 Dissolved Oxygen:	
5	1.0 m	0.2			16	
6	apart	0.1			17 8.34	ppm
7		<0.1			18 96.0	%
9		<0.1			19 22.1	°C
9		<0.1			20	
10		0.1			21	
					22	
Transect 1	wetted width				23 Channel Feature:	
2	___ m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	___ m				.	
6	apart				. ____	ppm
7					. ____	%
8					n	
9						
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

WBID# 1264
Site# 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 3:50pm 5/22/2007	Site Location Description (e.g., road crossing): County Road W & Hess Rd.
Personnel (Data Collectors): Alan Mitchell, Alex Bartlett	
Current Weather Conditions: Overcast - blustery	Facility Name: Peculiar NWTP, Harrisonville WWTP
Weather Conditions for Past 10 days: High Pressure ↓ Sunny	Permit Number: ↓MO0089443 ↓MO0078070
Drought Conditions?: No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 94.39195° W Y: 38.56041° N

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 21 Feet or ±_____Meters	±_____Feet or ±_____Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
53254		51852			

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☑ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☒ Other:

Comments: Housing units near creek on both Left and Right

A.W.M. May 22, 2007
EAE Inc.

% Channel Feature
RUN: 100%
RIFFLE: 0%
POOL: 0%

*** Page Two – Data Sheet B for WBID #** 1264: Site 3

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN	0	12	100	0.5	0.1
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☑ Yes ☐ No

If so, is there an obvious current? ☑ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE	20	8	5	0.3	0.5
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	100 % Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: [signature] Date of Survey: May 22, 2007

Organization: BAE Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.6			1 Channel Feature:	
2	7.0 m	0.7			2 RUN	
3		0.7			3	
4	measurements	0.7			4 Dissolved Oxygen	
5	0.7 m	0.7			5	
6	apart	0.6			6 8.34	ppm
7		0.6			7 97.5	%
8		0.6			8 22.8	°C
9		0.5			9	
10		0.3			10	
					11	
Transect B 1	wetted width	0.4			12 Channel Feature:	
2	6.5 m	0.8			13 RUN	
3		0.8			14	
4	measurements	0.7			15 Dissolved Oxygen:	
5	0.6 m	0.7			16	
6	apart	0.8			17 8.27	ppm
7		0.8			18 96.0	%
9		0.8			19 22.8	°C
9		0.7			20	
10		0.4			21	
					22	
Transect C 1	wetted width	0.2			23 Channel Feature:	
2	4.5 m	0.5			24 RUN	
3		0.5			25	
4	measurements	0.5			26 Dissolved Oxygen	
5	0.4 m	0.4			.	
6	apart	0.3			. 8.35	ppm
7		0.3			. 97.1	%
8		0.3			n 22.8	°C
9		0.3				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 3

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D	1	wetted width	0.2			1 Channel Feature:	
	2	8.0 m	0.5			2 RUN	
	3		0.6			3	
	4	measurements	0.6			4 Dissolved Oxygen	
	5	0.8 m	0.6			5	
	6	apart	0.6			6 8.28 ppm	
	7		0.4			7 96.1 %	
	8		0.3			8 22.8 °C	
	9		0.2			9	
	10		<0.1			10	
						11	
Transect E	1	wetted width	0.2			12 Channel Feature:	
	2	6.5 m	0.3			13 RUN	
	3		0.5			14	
	4	measurements	0.5			15 Dissolved Oxygen:	
	5	0.6 m	0.6			16 RUN	
	6	apart	0.6			17 8.28 ppm	
	7		0.7			18 96.6 %	
	9		0.7			19 22.8 °C	
	9		0.3			20	
	10		0.1			21	
						22	
Transect F	1	wetted width	0.3			23 Channel Feature:	
	2	6.0 m	0.6			24 RUN	
	3		0.5			25	
	4	measurements	0.7			26 Dissolved Oxygen	
	5	0.6 m	0.7			.	
	6	apart	0.7			. 8.36 ppm	
	7		0.7			. 96.8 %	
	8		0.6			n 22.8 °C	
	9		0.3				
	10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alan E. Mitchell **Date:** May 22, 2007

Organization: EAE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.2			1 Channel Feature:	
2	7.0 m	0.5			2 RUN	
3		0.7			3	
4	measurements	0.8			4 Dissolved Oxygen	
5	0.4 m	0.8			5	
6	apart	0.8			6 8.40	ppm
7		0.8			7 97.7	%
8		0.7			8 22.8	°C
9		0.5			9	
10		0.3			10	
					11	
Transect H 1	wetted width	<0.1			12 Channel Feature:	
2	5.0 m	0.2			13 RUN	
3		0.4			14	
4	measurements	0.5			15 Dissolved Oxygen:	
5	m	0.5			16	
6	apart	0.5			17 8.45	ppm
7		0.5			18 97.4	%
9		0.3			19 22.8	°C
9		0.2			20	
10		<0.1			21	
					22	
Transect I 1	wetted width	0.1			23 Channel Feature:	
2	6.0 m	0.5			24 RUN	
3		0.6			25	
4	measurements	0.6			26 Dissolved Oxygen	
5	0.6 m	0.7			.	
6	apart	0.7			. 8.32	ppm
7		0.8			. 96.7	%
8		0.7			n 22.8	°C
9		0.4				
10		0.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alan W. Mitchell **Date:** May 22, 2007

Organization: EHE, Inc. Position: Env. Engr

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1						
1	wetted width	0.5			1 Channel Feature:	
2	6.0 m	0.7			2 RUN	
3		0.8			3	
4	measurements	0.8			4 Dissolved Oxygen	
5	0.6 m	0.8			5	
6	apart	0.8			6 8.30	ppm
7		0.8			7 96.5	%
8		0.7			8 22.9	°C
9		0.6			9	
10		0.2			10	
					11	
Transect 2						
1	wetted width	0.1			12 Channel Feature:	
2	6.5 m	0.2			13 RUN	
3		0.3			14	
4	measurements	0.3			15 Dissolved Oxygen:	
5	0.6 m	0.3			16	
6	apart	0.3			17 8.44	ppm
7		0.3			18 97.3	%
9		0.2			19 22.9	°C
9		0.1			20	
10		<0.1			21	
					22	
Transect						
1	wetted width				23 Channel Feature:	
2	m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	m				.	
6	apart				. ____	ppm
7					. ____	%
8					n	
9						
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alan E. Mitchell **Date:** May 22, 2007

Organization: EA Engineering, Inc. Position: Env. Engr

WBID# 1264
Site# 4

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: May 16, 2007	Site Location Description (e.g., road crossing): off bridge at 278th
Personnel (Data Collectors): AMD, JPS	
Current Weather Conditions: Overcast	Facility Name: Peculiar WWTP, Harrisonville WWTP
Weather Conditions for Past 10 days: Rain in Past 48	Permit Number: MO0094943, MO02 80?0

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 094.2874 W Y: 33.6102 N

HORIZONTAL COLLECTION METHOD (indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	±_____Feet or ±_____Meters	±_____Feet or ±_____Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1	up	2	ds		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☒ Steep slopes	☐ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES
RUN - 30
RIFFLE - 60
Pool - 10

*** Page Two – Data Sheet B for WBID #** 1264 **:** SITE #
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

90 % Cobble	10 % Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Macrophytes

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☒ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☒ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Amy M [signature] Date of Survey: 5/2?/07

Organization: BNR Position: ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 4

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A	1	wetted width	<0.1m			1 Channel Feature:	
	2	6m m	<0.1m			2 RIFFLE	
	3		0.1m			3	
	4	measurements	0.2m			4 Dissolved Oxygen	
	5	0.6 m	0.2m			5	
	6	apart	0.2m			6 6.8 ppm	
	7		0.2m			7 %	
	8		0.1m			8	
	9		0.1m			9	
	10		<0.1R			10	
						11	
Transect B	1	wetted width	.2m			12 Channel Feature:	
	2	10 m	.2m			13 RUN	
	3		.2m			14	
	4	measurements	.1m			15 Dissolved Oxygen:	
	5	1.0 m	.1m			16	
	6	apart	.1m			17 6.8 ppm	
	7		<0.1			18 %	
	8		<0.1m			19	
	9		<0.1m			20	
	10		<0.1m			21	
						22	
Transect C	1	wetted width	<0.1m			23 Channel Feature:	
	2	7.0 m	0.2m			24 RUN/RIFFLE	
	3		0.3m			25	
	4	measurements	0.1m			26 Dissolved Oxygen	
	5	0.7 m	0.5m			.	
	6	apart	0.3			. 6.7 ppm	
	7		0.1m			. %	
	8		0.1R			n	
	9		0.1m				
	10		<0.1m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Amy M. Barnes **Date:** 5/29/07

Organization: BWR **Position:** ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	< 0.1m			1 Channel Feature:	
2	10 m	0.3m			2 RIFFLE	
3		0.1m			3	
4	measurements	0.1m			4 Dissolved Oxygen	
5	1.0 m	0.1m			5	
6	apart	0.1m			6 6.9 ppm	
7		0.2m			7 ___ %	
8		0.2m			8	
9		0.1m			9	
10		<0.1m			10	
					11	
Transect E 1	wetted width	<0.1m			12 Channel Feature:	
2	4 m	0.1m			13 RIFFLE	
3		0.1m			14	
4	measurements	0.4m			15 Dissolved Oxygen:	
5	1.4 m	0.2m			16	
6	apart	0.1m			17 6.8 ppm	
7		0.1m			18 ___ %	
9		<0.1m			19	
9		0.3m			20	
10		0.1m			21	
					22	
Transect F 1	wetted width	0.1m			23 Channel Feature:	
2	9.0 m	<0.1m			24 RIFFLE	
3		0.1m			25	
4	measurements	0.2m			26 Dissolved Oxygen	
5	8.9 m	0.2m			.	
6	apart	0.2m			. 6.8 ppm	
7		0.1m			. ___ %	
8		0.1m			n	
9		0.1m				
10		<0.1m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Ann M. Dziuba **Date:** 5/26/07

Organization: BNR Position: Env. Sci

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	<0.1m			1 Channel Feature:	
2	8.0 m	0.1m			2 RIFFLE	
3		0.1m			3	
4	measurements	0.1m			4 Dissolved Oxygen	
5	0.8 m	<0.1m			5	
6	apart	0.2m			6 6.9 ppm	
7		0.3m			7 ___ %	
8		0.3m			8	
9		0.2m			9	
10		0.1m			10	
					11	
Transect H 1	wetted width	<0.1m			12 Channel Feature:	
2	12.5 m	<0.1m			13 RIFFLE	
3		<0.1m			14	
4	measurements	0.1m			15 Dissolved Oxygen:	
5	1.2 m	<0.1m			16	
6	apart	<0.1m			17 6.9 ppm	
7		0.2m			18 ___ %	
9		0.2m			19	
9		0.2m			20	
10		0.1m			21	
					22	
Transect I 1	wetted width	0.1m			23 Channel Feature:	
2	10.0 m	<0.1m			24 RUN	
3		0.1m			25	
4	measurements	0.2m			26 Dissolved Oxygen	
5	1.6 m	0.2m			.	
6	apart	0.2m			. 6.7 ppm	
7		0.1m			. ___ %	
8		0.2m			n	
9		0.2m				
10		0.2m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Amy M. Rudnicki **Date:** 5/20/07

Organization: BMK **Position:** ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 4

	Distance from Stream edge	Depth	Rank	Assigned Rank		Sorted depth
Transect I 1	wetted width	0.1m				
2	12.5 m	0.4m		1	Channel Feature:	
3		0.4m		2	Run	
4	measurements	0.3m		3		
5	1.2 m	0.3m		4	Dissolved Oxygen	
6	apart	0.2m		5		
7		0.2m		6	6.8	ppm
8		0.1m		7	____	%
9		0.1m		8		
10		<0.1m		9		
				10		
Transect K 1	wetted width	0.1m		11		
2	12.0 m	0.2m		12	Channel Feature:	
3		0.2m		13	Run	
4	measurements	0.3m		14		
5	1.2 m	0.3m		15	Dissolved Oxygen:	
6	apart	0.3m		16		
7		0.2m		17	6.7	ppm
9		0.2m		18	____	%
9		0.1m		19		
10		<0.1m		20		
				21		
Transect 1	wetted width			22		
2	____ m			23	Channel Feature:	
3				24		
4	measurements			25		
5	____ m			26	Dissolved Oxygen	
6	apart			.		
7				.	____	ppm
8				.	____	%
9				n		
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [illegible] Date: 5/26/07

Organization: BNR Position: ENV. SCI

WBID# 1264
Site# 9

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: May 16, 2007	Site Location Description (e.g., road crossing): walked in from 253rd
Personnel (Data Collectors): AMD, JRS	
Current Weather Conditions: Overcast	Facility Name: Kenyon WWTP, Harrisonville WWTP
Weather Conditions for Past 10 days: Rain in Past 48hrs	Permit Number: MO0089443, MO0128570

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION IN METERS)

Site GPS Coordinates: UTM X: 094.91317 W Y: 33.65799

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	±_____Feet or ±_____Meters	±_____Feet or ±_____Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
74	up	75	ds		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☒ Steep slopes	☐ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: tractor road

% CHANNEL FEATURES
RUN - 90%
RIFFLE - 5%
POOL - 5%

*** Page Two – Data Sheet B for WBID # 1264 : SITE # 5**
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
		20		80	

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Macrophytes

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Brown
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Amy M. Bushong Date of Survey: 5/22/07

Organization: BWR Position: ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1m			
2	5.5 m	0.3m		1 Channel Feature:	
3		0.3m		2 Run	
4	measurements	0.4m		3	
5	0.5 m	0.4m		4 Dissolved Oxygen	
6	apart	0.3m		5	
7		0.5m		6 7.3	ppm
8		0.4m		7 ______	%
9		0.3m		8	
10		0.1m		9	
				10	
Transect B 1	wetted width	0.1m		11	
2	5.0 m	0.1m		12 Channel Feature:	
3		0.3m		13 Run	
4	measurements	0.5m		14	
5	0.5 m	0.5m		15 Dissolved Oxygen:	
6	apart	0.5m		16	
7		0.5m		17 7.3	ppm
9		0.5m		18 ______	%
9		0.3m		19	
10		0.1m		20	
				21	
Transect C 1	wetted width	0.1m		22	
2	5.5 m	0.4m		23 Channel Feature:	
3		0.5m		24 Run	
4	measurements	0.6m		25	
5	0.5 m	0.7m		26 Dissolved Oxygen	
6	apart	0.8m		.	
7		0.7m		. 7.5	ppm
8		0.4m		. ______	%
9		0.3m		n	
10		<0.1m			

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] Date: 5/2?/07

Organization: BWR Position: Env. Sci.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site #5

	Distance from Stream edge	Depth	Rank
Transect D 1	wetted width	0.2m	
2	5.5 m	0.3m	
3		0.4m	
4	measurements	0.5m	
5	0.5 m	0.6m	
6	apart	0.6m	
7		0.4m	
8		0.3m	
9		0.1m	
10		<0.1m	
Transect E 1	wetted width	<0.1m	
2	4.0 m	0.2m	
3		0.1m	
4	measurements	0.2m	
5	0.4 m	0.3m	
6	apart	0.3m	
7		0.2m	
9		0.2m	
9		0.2m	
10		0.1m	
Transect F 1	wetted width	0.1m	
2	2.8 m	0.1m	
3		0.1m	
4	measurements	0.1m	
5	0.28m	0.1m	
6	apart	0.1m	
7		0.1m	
8		0.1m	
9		0.1m	
10		<0.1m	

Assigned Rank		Sorted depth
1	Channel Feature:	
2	~~Riffle~~ Pool	
3		
4	Dissolved Oxygen	
5		
6	7.3	ppm
7		%
8		
9		
10		
11		
12	Channel Feature:	
13	Run	
14		
15	Dissolved Oxygen:	
16		
17	7.4	ppm
18		%
19		
20		
21		
22		
23	Channel Feature:	
24	Riffle	
25		
26	Dissolved Oxygen	
.		
.	7.5	ppm
.		%
n		

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [signature] Date: 5/29/07

Organization: BWR Position: ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1164 Site # 5

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	<0.1m			1 Channel Feature:	
2	4.0 m	0.1m			2 Run	
3		0.2m			3	
4	measurements	0.3m			4 Dissolved Oxygen	
5	m	0.3m			5	
6	apart	0.3m			6 7.4 ppm	
7		0.2m			7 — %	
8		<0.1m			8	
9		<0.1m			9	
10		<0.1m			10	
					11	
Transect H 1	wetted width	<0.1m			12 Channel Feature:	
2	3.8 m	0.1m			13 Run	
3		0.2m			14	
4	measurements	0.4m			15 Dissolved Oxygen:	
5	0.5 m	0.5m			16	
6	apart	0.4m			17 7.3 ppm	
7		0.3m			18 — %	
9		0.2m			19	
9		0.1m			20	
10		<0.1m			21	
					22	
Transect I 1	wetted width	<0.1m			23 Channel Feature:	
2	5m	0.1m			24 Run	
3		0.2m			25	
4	measurements	0.1m			26 Dissolved Oxygen	
5	0.5 m	0.1m			.	
6	apart	0.3m			. 7.2 ppm	
7		0.4m			. — %	
8		0.3m			n	
9		0.2m				
10		<0.1m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Amy M. Spurlock **Date:** 5/27/07

Organization: BWR Position: ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264   Site # 5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect I 1	wetted width	<0.1m		1 Channel Feature:	
2	9.5 m	0.2m		2 RUN	
3		0.3m		3	
4	measurements	0.4m		4 Dissolved Oxygen	
5	0.9 m	0.3m		5	
6	apart	0.2m		6 7.3	ppm
7		0.1m		7 —	%
8		0.1m		8	
9		0.1m		9	
10		<0.1m		10	
Transect K 1	wetted width	<0.1m		11	
2	8.0 m	<0.1m		12 Channel Feature:	
3		<0.1m		13 RIFFLE	
4	measurements	<0.1m		14	
5	0.8 m	<0.1m		15 Dissolved Oxygen:	
6	apart	<0.1m		16	
7		0.1m		17	
9		0.2m		18 —	ppm
9		<0.1m		19 —	%
10		<0.1m		20	
				21	
Transect 1	wetted width			22	
2	— m			23 Channel Feature:	
3				24	
4	measurements			25	
5	— m			26 Dissolved Oxygen	
6	apart			.	
7				. —	ppm
8				. —	%
9				n	
10					

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [signature] **Date:** 5/27/07

Organization: ADWR Position: Env. Sci

WBID# 1264
Site# 6

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: May 07, 2007	Site Location Description (e.g., road crossing): off bridge at 240th St.
Personnel (Data Collectors): AMD, JPS	
Current Weather Conditions: Light Rain	Facility Name: Raytar WWTF Harrisonville WWTP
Weather Conditions for Past 10 days: Light Rain	Permit Number: MO 0089443, MO 0280770

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 094.3932 W Y: 38.6291 N

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other_____
EPE	± 20 Feet or ±_____Meters	±_____Feet or ±_____Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
	up		down		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☒ Steep slopes	☐ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: none

% CHANNEL FEATURES
RUN - 90%
RIFFLE - 5%
POOL - 5%

* **Page Two – Data Sheet B for WBID #** 1264 : SITE #6
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

5 % Cobble	% Gravel	5 % Sand	% Silt	90 % Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

macrophytes

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Amy M. Bidwell [signature] Date of Survey: 5/27/07

Organization: BWR Position: ENV. SCI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 6

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1m			1 Channel Feature:	
2	11 m	0.5m			2 RUN	
3		0.5m			3	
4	measurements	0.5m			4 Dissolved Oxygen	
5	1.1 m	0.5m			5	
6	apart	0.4m			6 6.9 ppm	
7		0.3m			7 ___ %	
8		0.5m			8	
9		0.4m			9	
10		0.3m			10	
					11	
Transect B 1	wetted width	0.1m			12 Channel Feature:	
2	12.0 m	0.1m			13 Run	
3		0.7m			14	
4	measurements	0.6m			15 Dissolved Oxygen:	
5	1.2 m	0.5m			16	
6	apart	0.5m			17 6.9 ppm	
7		0.6m			18 ___ %	
8		0.6m			19	
9		0.1m			20	
10		0.1m			21	
					22	
Transect C 1	wetted width	0.1m			23 Channel Feature:	
2	10.5 m	0.6m			24 RUN	
3		0.7m			25	
4	measurements	0.7m			26 Dissolved Oxygen	
5	1.0 m	0.7m			.	
6	apart	0.7m			. 6.8 ppm	
7		0.7m			. ___ %	
8		0.7m			n	
9		0.5m				
10		0.1m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Anna M. Buckner **Date:** 5/27/07

Organization: BWR **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 16

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.3m			1 Channel Feature:	
2	10.0 m	0.5m			2 Run	
3		0.8m			3	
4	measurements	0.9m			4 Dissolved Oxygen	
5	1.0 m	0.9m			5	
6	apart	0.9m			6 6.8 ppm	
7		0.9m			7 ____ %	
8		0.9m			8	
9		0.6m			9	
10		0.3m			10	
					11	
Transect E 1	wetted width	0.3m			12 Channel Feature:	
2	10.0 m	0.9m			13 Run	
3		0.4m			14	
4	measurements	1.0m			15 Dissolved Oxygen:	
5	1.0 m	1.0m			16	
6	apart	1.0m			17 6.6 ppm	
7		1.0m			18 ____ %	
8		0.9m			19	
9		0.9m			20	
10		0.3m			21	
					22	
Transect F 1	wetted width	0.5m			23 Channel Feature:	
2	8.0 m	0.9m			24 Run	
3		0.9m			25	
4	measurements	0.9m			26 Dissolved Oxygen	
5	0.8 m	0.9m			.	
6	apart	0.9m			. 6.7 ppm	
7		0.8m			. ____ %	
8		0.5m			n	
9		0.3m				
10		0.1m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Amy M. Gyekenyesi **Date:** 5/27/07

Organization: BWR **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 6

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G	1	wetted width	0.2m			1 Channel Feature:	
	2	7.0 m	0.2m			2 Run	
	3		0.5m			3	
	4	measurements	0.9m			4 Dissolved Oxygen	
	5	0.9 m	0.8m			5	
	6	apart	0.9m			6 7.0 ppm	
	7		0.8m			7 ___ %	
	8		0.9m			8	
	9		0.9m			9	
	10		0.3m			10	
						11	
Transect H	1	wetted width	0.2m			12 Channel Feature:	
	2	9.5 m	0.3m			13 Run	
	3		0.4m			14	
	4	measurements	0.9m			15 Dissolved Oxygen:	
	5	0.9 m	0.9m			16	
	6	apart	0.9m			17 7.1 ppm	
	7		0.8m			18 ___ %	
	8		0.9m			19	
	9		0.7m			20	
	10		0.2m			21	
Transect I	1	wetted width	0.1m			22	
	2	11.0 m	0.2m			23 Channel Feature:	
	3		0.8m			24 Run	
	4	measurements	0.9m			25	
	5	1.1 m	0.9m			26 Dissolved Oxygen	
	6	apart	0.9m			.	
	7		0.9m			. 7.0 ppm	
	8		0.7m			. ___ %	
	9		0.4m			n	
	10		0.2m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ann M. Redmond **Date:** 5/27/07

Organization: BWR **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 6

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect I	1	wetted width	0.3m			1 Channel Feature:	
	2	8.0 m	0.5m			2 Run	
	3		0.5m			3	
	4	measurements	0.8m			4 Dissolved Oxygen	
	5	0.8 m	0.9m			5	
	6	apart	0.9m			6 6.9 ppm	
	7		0.9m			7 ____ %	
	8		0.9m			8	
	9		0.6m			9	
	10		0.3m			10	
						11	
Transect II	1	wetted width	0.5m			12 Channel Feature:	
	2	10.0 m	0.9m			13 Run	
	3		0.9m			14	
	4	measurements	0.9m			15 Dissolved Oxygen:	
	5	1.0 m	0.8m			16	
	6	apart	0.8m			17 7.1 ppm	
	7		0.7m			18 ____ %	
	8		0.7m			19	
	9		0.7m			20	
	10		0.3m			21	
						22	
Transect	1	wetted width				23 Channel Feature:	
	2	____ m				24	
	3					25	
	4	measurements				26 Dissolved Oxygen	
	5	____ m				.	
	6	apart				. ____ ppm	
	7					. ____ %	
	8					n	
	9						
	10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Amy M. Gustafson **Date:** 5/27/07

Organization: BWR **Position:** ENV. SCI.

WBID# 1264
Site# 7

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 05-30-07 11:45	Site Location Description (e.g., road crossing): UPSTREAM FROM HWY 2 BRIDGE
Personnel (Data Collectors): Lunt & Bartlett	
Current Weather Conditions: Overcast 70-75° F	Facility Name: Peculiar WWTP, Harrisonville WWTP
Weather Conditions for Past 10 days: Sunny / Rain	Permit Number: MO0089443, MO0028070

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 38,64349 Y: 094,40133

HORIZONTAL COLLECTION METHOD (indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	±_____Feet or ±_____Meters	±_____Feet or ±_____Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1264-3,4	TRAN. J-K	1264-1,2	TRAN. B-A		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☒ No trespass sign	☐ Fence	☐ Steep slopes	☐ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: HWY 2

% CHANNEL FEATURES

RUN - 70
RIFFLE - 30
POOL -

*** Page Two – Data Sheet B for WBID #** 1264 : SITE #7
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

60 % Cobble	% Gravel	20 % Sand	20 % Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

PERIPHYTON ON COBBLE SUBSTRATE

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☒ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Ryan M. Lunt Date of Survey: 05-30-07

Organization: Seagull Environmental Technologies Inc. Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 7

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1			1 Channel Feature:	
2	8.0 m	0.2			2 RUN 100%	
3		0.2			3	
4	measurements	0.2			4 Dissolved Oxygen	
5	0.8 m	0.3			5	
6	apart	0.3			6 8.61	ppm
7		0.3			7 96.0	%
8		0.3			8	
9		0.2			9	
10		0.1			10	
					11	
Transect B 1	wetted width	0.1			12 Channel Feature:	
2	8.2 m	0.3			13 RUN	100%
3		0.3			14	
4	measurements	0.3			15 Dissolved Oxygen:	
5	0.82 m	0.3			16	
6	apart	0.4			17 8.43	ppm
7		0.3			18 95.6	%
8		0.4			19	
9		0.3			20	
10		0.3			21	
					22	
Transect C 1	wetted width	0.1			23 Channel Feature:	
2	7.5 m	0.3			24 RUN	100%
3		0.3			25	
4	measurements	0.2			26 Dissolved Oxygen	
5	0.75 m	0.2			.	
6	apart	0.2			. 8.04	ppm
7		0.2			. 90.3	%
8		0.2			n	
9		0.1				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-30-07

Organization: SCCI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 7

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D	1	wetted width	0.1			1 Channel Feature:	
	2	8.0 m	0.1			2 RIFFLE	30%
	3		0.1			3 RUN	70%
	4	measurements	0.1			4 Dissolved Oxygen	
	5	0.80 m	0.1			5	
	6	apart	0.1			6 8.18	ppm
	7		0.1			7 91.2	%
	8		0.1			8	
	9		0.1			9	
	10		0.1			10	
						11	
Transect E	1	wetted width	0.1			12 Channel Feature:	
	2	9.5 m	0.3			13 RIFFLE	15%
	3		0.3			14 RUN	85%
	4	measurements	0.2			15 Dissolved Oxygen:	
	5	0.95 m	0.3			16	
	6	apart	0.4			17 7.78	ppm
	7		0.4			18 87.2	%
	8		0.3			19	
	9		0.3			20	
	10		0.2			21	
						22	
Transect F	1	wetted width	0.7			23 Channel Feature:	
	2	10.0 m	0.1			24 RUN	100%
	3		0.7			25	
	4	measurements	0.1			26 Dissolved Oxygen	
	5	1.0 m	0.7			.	
	6	apart	0.2			. 7.73	ppm
	7		0.2			. 96.8	%
	8		0.1			n	
	9		0.1				
	10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value deptl the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the t depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this U. datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-30-07

Organization: SETI **Position:** Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 7

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.2			1 Channel Feature:	
2	9.0 m	0.5			2 RUN	60%
3		0.5			3 RIFFLE	40%
4	measurements	0.4			4 Dissolved Oxygen	
5	0.90 m	0.4			5	
6	apart	0.3			6 7.40	ppm
7		0.3			7 82.9	%
8		0.2			8	
9		0.2			9	
10		0.1			10	
					11	
Transect H 1	wetted width	0.1			12 Channel Feature:	
2	10.3 m	0.2			13 RIFFLE	50%
3		<0.1			14 RUN	50
4	measurements	<0.1			15 Dissolved Oxygen:	
5	1.3 m	<0.1			16	
6	apart	<0.1			17 7.35	ppm
7		0.1			18 82.0	%
8		0.1			19	
9		0.1			20	
10		0.1			21	
					22	
Transect I 1	wetted width	0.3			23 Channel Feature:	
2	10.0 m	0.4			24 RUN	100%
3		0.4			25	
4	measurements	0.3			26 Dissolved Oxygen	
5	1.0 m	0.3			.	
6	apart	0.2			. 7.24	ppm
7		0.2			. 81.1	%
8		0.1			n	
9		0.1				
10		<0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the tw depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Ryan M. [illegible] **Date:** 05-30-07

Organization: SETI **Position:** Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1264 Site # 7

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1	wetted width	< 0.1			1 Channel Feature:	
	2	11.0 m	< 0.1			2 RIFFLE	100%
	3		0.1			3	
	4	measurements	< 0.1			4 Dissolved Oxygen	
	5	0.60 m	< 0.1			5	
	6	apart	0.1			6 7.32	ppm
	7		0.1			7 81.7	%
	8		0.2			8	
	9		0.3			9	
	10		0.3			10	
Transect 2	1	wetted width	< 0.1			11	
	2	6.0 m	< 0.1			12 Channel Feature:	
	3		0.1			13 RIFFLE	50%
	4	measurements	0.1			14 RUN	95%
	5	0.60 m	0.2			15 Dissolved Oxygen:	
	6	apart	0.2			16	
	7		0.2			17 7.12	ppm
	8		0.2			18 79.7	%
	9		0.1			19	
	10		< 0.1			20	
Transect	1	wetted width				21	
	2	m				22	
	3					23 Channel Feature:	
	4	measurements				24	
	5	m				25	
	6	apart				26 Dissolved Oxygen	
	7					.	
	8					. ____	ppm
	9					. ____	%
	10					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value deptl the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the t depth values surrounding the middle rank.

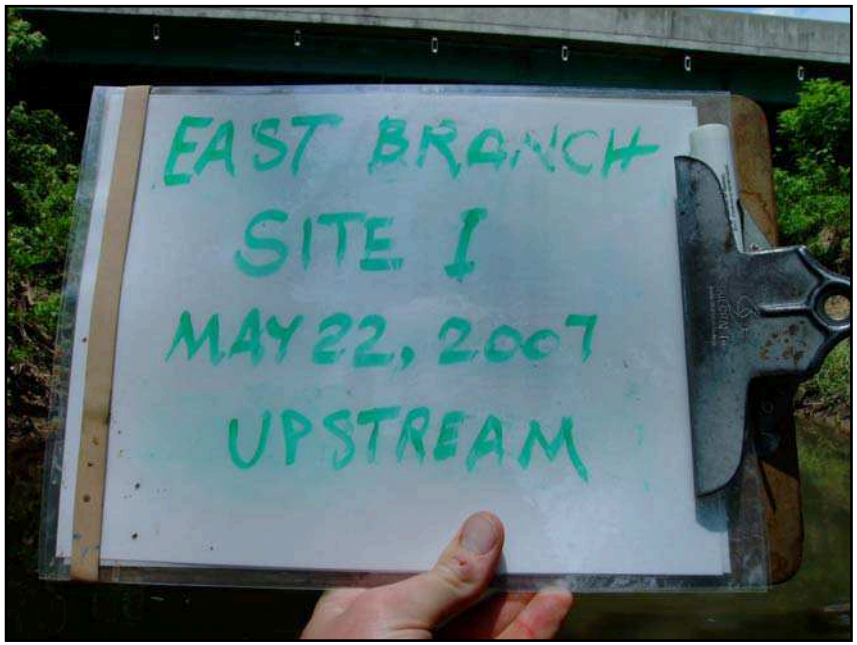
I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this U datasheet is true and accurate.

Signed: Ryan M Lint **Date:** 05-30-07

Organization: SETI **Position:** Environmental Scientist

Downstream (Site #1) of East Branch.

Downstream (Site #1) of East Branch.



Upstream (Site #1) of East Branch.

Upstream (Site #1) of East Branch.

Upstream (Site #2) of East Branch.

Upstream (Site #2) of East Branch.

Downstream (Site #2) of East Branch.

Downstream (Site #2) of East Branch.

Downstream (Site #3) of East Branch.

Downstream (Site #3) of East Branch.

Upstream (Site #3) of East Branch.

Upstream (Site #3) of East Branch.

Upstream (Site 4) of East Branch

Downstream (Site 4) of East Branch

Upstream (Site 5 – mislabled white board) of East Branch

Downstream (Site 5 – mislabled white board) of East Branch

Upstream (Site 6) of East Branch

Downstream (Site 6) of East Branch

Upstream (Site 7) of East Branch

Downstream (Site 7) of East Branch

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name EAST BRANCH ***(WBID #*** 1264)

I. Introduction

Date & Time (include AM or PM): _____

Interviewed: ☐ In person ☐ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.)_____

_____

Interviewer introduction to Interviewee: "My name is _____, I work for __(*name of your employer*)____, and I am collecting information on how people use __(*name of the stream*)____."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☐ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: JAMES FAMULINER
Current mailing address: 28813 S. Buford Rd Harrisonville, Mo 64701
Daytime phone number: (816) 380-3449
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No 86 years!
If yes, how many years? Family Farm for 105 years.

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☐ Yes ☒ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☐ Yes ☒ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.
The "kids", who are now in their sixties, used to swim in the creek, although nowadays "you wouldn't want to stick your big toe in."

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? ☐ Yes ☐ No

If yes, proceed to #2.
If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee witnessed SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

IV. Anecdotal Use?

1.) Have you heard about anyone using this stream since Nov. 28, 1975 for recreation – not seen or done yourself, but just heard about it? ☐ Yes ☐ No

If yes, proceed to #2.

If no, thank the individual for taking the time to talk to you and conclude the interview.

2.) What kind of uses have you heard about?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee heard of WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee heard of SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the* (See map requirements in the protocol)._____

V. Others to Contact?

Can you recommend someone else we could contact that knows the stream? ☒ Yes ☐ No
If yes, that person's contact info (name, address, phone, directions?)_____

If no, thank the individual for taking the time to talk to you and conclude the interview.

VI. Additional Comments

1.) From the Interviewee: Neil Kohler, landowner to the north, uses land to water cattle in the winter.

2.) From the Interviewer:_____

VII. Information on Interviewer

Has interviewer been trained by Missouri DNR to conduct UAA Interviews?
☐ Yes ☒ No If yes, how (check all that apply):
Workshop? (if so, enter date): _____
On-line training seminar? _____
Followed Interview Instruction Sheets?_____
Other_____

Interviewer Information:
Signature: _____
Printed Name: Jon Studtmann
Employer (where applicable): BWR Corp.
Interviewer's phone #: 785.218.4752 E-mail: idlduck@yahoo.com

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name EAST BRANCH ***(WBID #*** 1264)

I. Introduction

Date & Time (include AM or PM): _____

Interviewed: ☐ In person ☐ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.)_____

_____

Interviewer introduction to Interviewee: "My name is _____, I work for __(*name of your employer*)____, and I am collecting information on how people use __(*name of the stream*)____."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☐ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: Jarrett Hawley
Current mailing address: 27901 S. State Rt DD, Harrisonville MO 64701
Daytime phone number: (816) 884-5406
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No
If yes, how many years?

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☐ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☐ Yes ☐ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

_____

_____

_____

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? ☐ Yes ☐ No

If yes, proceed to #2.
If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee witnessed SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

IV. Anecdotal Use?

1.) Have you heard about anyone using this stream since Nov. 28, 1975 for recreation – not seen or done yourself, but just heard about it? ☐ Yes ☐ No

If yes, proceed to #2.

If no, thank the individual for taking the time to talk to you and conclude the interview.

2.) What kind of uses have you heard about?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee heard of WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee heard of SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

_____

_____

2.d.) Where, exactly? Describe specific location *and mark on the* (See map requirements in the protocol)._____

_____

_____

_____

V. Others to Contact?

Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, that person's contact info (name, address, phone, directions?)_____

_____

_____

If no, thank the individual for taking the time to talk to you and conclude the interview.

VI. Additional Comments

1.) From the Interviewee: _____

_____

_____

_____

_____

_____

2.) From the Interviewer:_____

_____

_____

_____

_____

VII. Information on Interviewer

Has interviewer been trained by Missouri DNR to conduct UAA Interviews?
☐ Yes ☐ No If yes, how (check all that apply):
Workshop? (if so, enter date): _____
On-line training seminar? _____
Followed Interview Instruction Sheets?_____
Other_____

Interviewer Information:
Signature: _____
Printed Name:_____
Employer (where applicable):_____
Interviewer's phone #:_____E-mail: _____

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name EAST BRANCH ***(WBID #*** 1264)

I. Introduction

Date & Time (include AM or PM): _____

Interviewed: ☐ In person ☐ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.)_____

_____

Interviewer introduction to Interviewee: "My name is _____, I work for __(*name of your employer*)____, and I am collecting information on how people use __(*name of the stream*)____."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☐ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: CLARENCE McVAY
Current mailing address: 18305 E. 315TH ST. HARRISONVILLE, MO 64701
Daytime phone number: (816) 390-7583
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No (816) 547-7583
If yes, how many years?

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☐ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☐ Yes ☐ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

_____

_____

_____

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?
crops on both sides (rental farming)
FISHING!

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

Secondary Contact Recreation				
Fishing ☒	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? fishes frequently for Channel catfish

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? ☐ Yes ☒ No

If yes, proceed to #2.
If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?

2.b.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☒	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee witnessed SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol). Fishing is allowed as long as people don't trash it up.

IV. Anecdotal Use?

1.) Have you heard about anyone using this stream since Nov. 28, 1975 for recreation – not seen or done yourself, but just heard about it? ☐ Yes ☐ No

If yes, proceed to #2.

If no, thank the individual for taking the time to talk to you and conclude the interview.

2.) What kind of uses have you heard about?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee heard of WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee heard of SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the* (See map requirements in the protocol)._____

V. Others to Contact?

Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, that person's contact info (name, address, phone, directions?)_____

If no, thank the individual for taking the time to talk to you and conclude the interview.

VI. Additional Comments

1.) From the Interviewee: _____

2.) From the Interviewer:_____

VII. Information on Interviewer

Has interviewer been trained by Missouri DNR to conduct UAA Interviews?
☐ Yes ☒ No If yes, how (check all that apply):
Workshop? (if so, enter date): _____
On-line training seminar? _____
Followed Interview Instruction Sheets?_____
Other_____

Interviewer Information:
Signature: _____
Printed Name: Jon Studtmann
Employer (where applicable): BWR Corp.
Interviewer's phone #: 785.218.4752 E-mail: ideoduck@yahoo.com

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name EAST BRANCH ***(WBID #*** 1264)

I. Introduction

Date & Time (include AM or PM): 11:15 5/22

Interviewed: ☐ In person ☒ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.)
OWNS FARM AT STREAM & ALLEYS POINT

Interviewer introduction to Interviewee: "My name is ✓, I work for *(name of your employer)*, and I am collecting information on how people use *(name of the stream)*."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☒ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: MRS. EMMETT ANDERSON
Current mailing address: 15900 E. 319TH ST. ARCHIE MO 64725
Daytime phone number: (816) 619-2490
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No
If yes, how many years? Several years

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☐ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☐ Yes ☐ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?
USED FOR FARMING

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? ☐ Yes ☐ No

If yes, proceed to #2.
If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee witnessed SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol)._____

IV. Anecdotal Use?

1.) Have you heard about anyone using this stream since Nov. 28, 1975 for recreation – not seen or done yourself, but just heard about it? ☐ Yes ☐ No

If yes, proceed to #2.

If no, thank the individual for taking the time to talk to you and conclude the interview.

2.) What kind of uses have you heard about?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee heard of WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol)._____

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee heard of SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

2.d.) Where, exactly? Describe specific location *and mark on the* (See map requirements in the protocol)._____

V. Others to Contact?

Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, that person's contact info (name, address, phone, directions?)_____

If no, thank the individual for taking the time to talk to you and conclude the interview.

VI. Additional Comments

1.) From the Interviewee: MAY WISH TO SPEAK WITH MR ANDERSON FOR MORE KNOWLEDGE OF STREAM

2.) From the Interviewer:_____

VII. Information on Interviewer

Has interviewer been trained by Missouri DNR to conduct UAA Interviews?
☐ Yes ☐ No If yes, how (check all that apply):
Workshop? (if so, enter date): _____
On-line training seminar? _____
Followed Interview Instruction Sheets?_____
Other_____

Interviewer Information:
Signature: _____
Printed Name:_____
Employer (where applicable):_____
Interviewer's phone #:_____ E-mail: _____